AMSAT News Service Weekly Bulletins
Issue: ANS-360
Date: 2016-12-25
Sources: amsat-ans-2016-ans-360-weekly-hyperkitty-1f8a60f3a8.txt

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AMSAT NEWS SERVICE
ANS-360
The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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ANS-360 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 360.01
 >From AMSAT HQ KENSINGTON, MD.
DATE December 25, 2016
To All RADIO AMATEURS
BID: $ANS-360.01

Fox-1Cliff and Fox-1D launch now likely 2Q 2017

AMSAT Vice President Engineering Jerry Buxton said that because of the delays SpaceX has experienced following their September 1 anomaly, it is likely that the launch of the Fox-1Cliff and Fox-1D CubeSats will be no earlier than the second quarter of 2017.
The two Fox-1 CubeSats will be carried to orbit in the Spaceflight Sherpa platform on a SpaceX Falcon 9 launch from Vandenberg AFB. The last period set for our launch would have closed November 30 of this year but was delayed due to the anomaly. The new launch period is not yet set but SpaceX expects to return to flight with their Iridium-1 launch in early January, 2017. Based on that expectation, we are looking forward to a 2Q 2017 launch of Fox-1Cliff and Fox-1D.

[ANS thanks Jerry Buxton, NØJY, AMSAT Vice President for Engineering
for the above information]

AMSAT CW Activity Day

January 1, 2017 (UTC) will be AMSAT's first annual CW Activity Day!

As with the old Straight Key Night, this is a fun event, not a contest. It will run for 24 hours on January 1, 2017 (UTC).

All forms of CW are welcome, -- straight keys, bugs, keyers, even keyboards and decoders. Since it is not a contest, there is no required exchange. A QSO is a QSO. Working the same station on more than one satellite is permitted.

Instead of submitting Best Fist nominations, all participants are asked to post their results, including "Soapbox" comments, to AMSAT-BB. Please include the satellites you used, and the number of CW QSOs you had on each. While it is not necessary to post your full log, you may do so if you wish.

[ANS thanks Ray W2RS for the above information]

STARS-C reports requested

A group here in Huntsville is attempting to help the STARS-C team collect signal reports and data from the STARS-C satellite recently launch from the ISS. The team will filter the data and forward it to the STARS-C team at Shizuoka University in Japan.

A NASA colleague received an email from Professor Yoshiki Yamagiwa, an engineering professor at Shizuoka University in Japan, requesting help listening for signals from a pair of CubeSats recently released from ISS.

University orbiter set to lift space elevator technology
The Asahi Shimbun
http://www.asahi.com/ajw/articles/AJ201607060005.html
provides overview information about the STARS-C (Space Tethered Autonomous Robotic Satellite-Cube). The basic configuration is two 1U satellites, a mother and a daughter, connected by a tether.

Our understanding is that the STARS-C team is trying to receive the CW beacons
as part of the first step of their operations, but their signals they're getting are too weak for data analysis, especially from the daughter satellite.
They're reaching out to ham operators and ground stations at universities, and
would appreciate reports on CW data received.

Orbit and frequency info for the satellites:

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19 Dec 2016 18:19:55
J-SSOD#5
Satellite Name:               STARS-C
Time: (UTCG)                 19 Dec 2016 08:50:19.273
Semi-major Axis (km)     6785.004
Eccentricity                    0.0009020
Inclination (deg)             51.6492
RAAN (deg)                   214.6791
Arg of Perigee (deg)       33.9061
Mean Anomaly (deg)     293.7118

(*1) True of Date Coordinate System, Osculating Orbit

# Mother satellite: CW 437.245MHz, FM downlinks 437.405MHz
# Daughter satellite: CW 437.255MHz, FM downlinks 437.425MHz

Details of the telemetry format are at
http://www.ipc.shizuoka.ac.jp/~vk127139/download/Telemetry%20Format.pdf
http://www.ipc.shizuoka.ac.jp/%7Evk127139/download/Telemetry%20Format.pdf

The STARS-C team will appreciate any info that reaches your ears, automated
receivers, or whatever!

For additional information here is a link from the AMSAT UK group:
https://amsat-uk.org/2016/11/08/jaxa-iss-ham-radio-cubesats/

Please email all reports with date and time directly to
scotty.collect(a)gmail.com

You can see the deployment on YouTube.
https://www.youtube.com/watch?v=QOseY2mE5LY
I hope you will like it though it is in Japanese.

JAXA announced another 6 CubeSats transported to ISS by HTV-6
will deploy in January 2017.


[ANS thanks Tim, N8DEU for the above information]


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Extra - Extra - Read all about it


The AMSAT On-Line Store has been stocked with LVB Tracker Complete. A
limited number are available.

Shipments will not go out until after Christmas due to long lines at the
post office and the labor contract of the elves at the AMSAT Office.
There is no choice in the color of the LED, some are Blue
and some are Amber. You get what is in the box when shipped.

Do not forget, these make great after Christmas, Kwanzaa, New Year,
birthday, or just because, presents for that special ham (or yourself
- we know that's what you really wanted).


[ANS thanks Bruce KK5DO for the above information]


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BY70-1 2U CubeSat Scheduled for Launch 12/26/2016

BY70-1 is a 2U CubeSat project led by China Center for Aerospace Science and Technology International Communications for school education and amateur radio.
The amateur radio station onboard will provide telecommand, telemetry and FM repeater functions. The spacecraft will be 3 axis stabilized and have deployable solar panels. Proposing a V/U transponder and requesting a 436.2MHz
downlink and a 145.920 MHz uplink, this satellite has been IARU coordinated.
It was planned to launch from Jiuquan on Dec 26th 2016 into a 530km circular
SSO. The launch has now been rumored to be delayed due to weather.
More info at
http://english.spacechina.com/n16421/index.html

[ANS thanks AMSAT-UK for the above information]

Pratham student satellite returns to life

The Mumbai Mirror reports on the return to life of the Pratham satellite launched on September 26, 2016. Pratham carries an amateur radio payload and was built by students at the Indian Institute of Technology Bombay (IIT-B).

The newspaper says:

After one month of radio silence, the ground station at the Indian Institute of Technology, Bombay, received a signal from Pratham satellite on the morning
of December 17, suggesting that it was still alive and kicking. Pratham is the
first satellite to be sent into space by an IIT.

The satellite had received signals in the first few weeks after its launch on
September 26, this year, but had gone quiet in November, due to technical difficulties, causing team members to worry if it was still operational.

“The fact that we received a signal on Saturday suggests that the satellite has now stabilized and is back to collecting data,” said Ratnesh Mishra, project manager of Pratham. While Mishra says that the incoming signal means that the satellite is functional, data transfer is yet to take place.

Read the full article at
http://mumbaimirror.indiatimes.com/mumbai/other/IIT-Bs-satellite-gets-a-signal-from-space/articleshow/56075162.cms

Pratham info
https://amsat-uk.org/2016/09/07/pratham-student-satellite/

https://amsat-uk.org/2016/12/20/pratham-returns-to-life/

[ANS thanks AMSAT-UK for the above information]

FUNcube Transponders Info

AO-73 has just changed into continuous transponder mode. Plan is to switch back to auto mode on Sunday 8 Jan 2017 pm UTC. This will give a long opportunity for transponder operations over the Holidays.

Pls see below for FUNcube transponder info
Have FUN with the transponder.
All the best for the holiday season, and for 2017

AO-73 FUNcube-1

The transponder is normally operational only when the satellite is in eclipse, ie the solar panels are NOT being illuminated. During weekends (from pm Fridays UTC to PM Sundays UTC) the transponder is operational 24/7.

When the transponder is switched off, the telemetry beacon is on full power, when the transponder is on the beacon it is on low power. During holidays, eg Christmas, New Year, Easter, etc, the transponder maybe activated for extended periods. Watch AMSAT-BB for announcements which are usually made on Friday evenings (UTC)

The nominal transponder frequencies are:
Uplink: 435.150 - 435.130 MHz LSB (Inverting)
Downlink: 145.950 - 145.970 MHz USB
Telemetry Tx: 145.935 MHz BPSK

(The passband may be up to 15kHz higher depending on on-board temps. Low temperatures give higher freqs!)

FUNcube-2 aka FUNcube on UKube

The FUNcube-2 sub-system continues to operate autonomously and, almost continuously, in amateur mode. The transponder is operational and the telemetry downlink is functioning with about 70mW output. The FUNcube-1 Dashboard does not correctly display the telemetry but it does correctly decode the data and uploads it to the FUNcube Data Warehouse from where it can be examined. Most of the real time data channels are operational and these include battery voltages, temperatures and ADCS data coming via the main On Board Computer (OBC).

The transponder is interrupted for a few seconds every 2 minutes when the other transmitter sends its CW beacon and, occasionally, for a few seconds when the main OBC reboots (approx seven times each orbit).

The nominal transponder frequencies are:
Uplink: 435.080 - 435.060 MHz LSB (Inverting)
Downlink: 145.930 - 145.950 MHz USB
Telemetry Tx: 145.915 MHz BPSK

(The passband may be up to 10kHz higher depending on on-board temps. Low temperatures give higher freqs!)

EO79 FUNcube-3

Due to power budget constraints the transponder cannot be operational 24/7 and an orbit specific schedule has been developed. The transponder will commence operation 27 minutes after the spacecraft enters sunlight and will

stay on for a period of 25 minutes. This schedule may be modified in future months as a result of experience.

The nominal transponder frequencies are:
Uplink: 435.077-435.047 MHz LSB (Inverting)
Downlink: 145.935-145.965 MHz USB

All FUNcube transponders are sponsored by AMSAT-UK and AMSAT-NL. We are very grateful for the assistance given by Innovative Solution In Space Bv, The Netherlands.

[ANS thanks Jim, G3WGM and the FUNcube team for the above information]

AMSAT Events

Information about AMSAT activities at other important events around the country. Examples of these events are radio club meetings where AMSAT Area Coordinators give presentations, demonstrations of working amateur satellites, and hamfests with an AMSAT presence (a table with AMSAT literature and merchandise, sometimes also with presentations, forums, and/or demonstrations).

*Sunday, 8 January 2017 – Ham Radio University in Bethpage, NY

*Saturday, 14 January 2017 – Thunderbird Hamfest 2017 in Phoenix AZ

*Thursday, 26 January 2017 – presentation for Arizona Repeater Association in Tempe AZ

*Saturday, 4 February 2017 – Palm Springs Hamfest in Palm Springs CA

*Friday-Sunday, 10-12 February 2017 Orlando HamCation in Orlando, FL

*Friday and Saturday, 17-18 February 2017 – Yuma Hamfest in Yuma AZ

*Friday-Sunday, March 31, April 1 & 2, 2017, NVCON in Las Vegas, NV

[ANS thanks AMSAT-NA for the above information]

ARISS News

Successful Contacts

* Maristes High School, Toulouse, France, direct via F8IDR
The ISS callsign was scheduled to be FXØISS
The scheduled astronaut was Thomas Pesquet KG5FYG
Contact was successful: Mon 2016-12-12 13:29:47 UTC

* A direct contact with students at The Communication College Of Vologda and Information Technologies, in Vologda, Russia, was successful Tue 2016-12-13.

* Scuola Secondaria di Primo Grado “Niccolò Pisano”, Marina di Pisa, Italy, telebridge via IK1SLD
The ISS callsign was scheduled to be OR4ISS
The scheduled astronaut was Shane Kimbrough KE5HOD
Contact was successful: Sat 2016-12-17 12:23:31 UTC

* Ecole Communale de Saint Sylvestre, Saint Sylvestre, France, direct via IK1SLD
The ISS callsign was scheduled to be OR4ISS
The scheduled astronaut was Thomas Pesquet KG5FYG
Contact was successful: Wed 2016-12-21 13:46:38 UTC 29 deg

Very good contact between the school Nelson Mandela / St Sylvestre and Thomas Pesquet this afternoon. All 20 questions answered plus 2 spare minutes for congratulations and applause.

Very clear audio all the way long
Thanks to Claudio / IK1SLD who made a great job.

Reported more than 300 people present in the gymnasium, with:
1 regional TV (France 3)
1 regional radio (France Bleu)
3 local Radios (Alouette FM, Beaub FM, Flash FM)
2 newspapers (Le Populaire du Centre, l'Echo du Centre)

Live audio streaming on Beaub FM web site

Upcoming Contacts

*   Primary School Georges Wallers, Saint-Amand-les-Eaux (59), France, Direct
via F4KJV
The ISS callsign is presently scheduled to be FXØISS
The scheduled astronaut is Thomas Pesquet KG5FYG
Contact is a go for: Sat 2016-12-31 11:31:12 UTC 44 deg

Watch
http://www.ariss.org/upcoming-contacts.html
for information about upcoming contacts as they are scheduled.

[ANS thanks ARISS and Charlie, AJ9N for the above information]

Satellite Shorts From All Over

Best Wishes for the Holidays and the New Year

All the editors at the AMSAT News Service wish to extend to you and yours the best wishes this holiday season and great success in the New Year. May your launches be high, your birds sing true, and have life beyond their years.

[ANS thanks Joe, Lee, and EMike for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Joe Spier, K6WAO
k6wao at amsat dot org